



A photograph of Ed Sheeran performing on stage. He is wearing a red t-shirt and has a beard. He is holding an acoustic guitar and singing into a Sennheiser 9000 series microphone. The background is dark with some stage lighting.

Flying Solo

Building a spectacular show around Ed Sheeran alone

By: Sharon Stancavage

Ed Sheeran alone with his Sennheiser 9000 series mic with a 9235 condenser capsule.

"The first thing we put together for Ed fit into the back of a truck; we started literally with next to nothing and built up from there." So says production and lighting designer Mark Cuniffe, who has been working with Ed Sheeran and his production manager/front-of-house sound engineer, Chris Marsh, since 2010. Together, they make up the creative team of the current *Divide Tour*. Sheeran has been touring consistently since then, although he did spend 2016 in the studio. "The shows have been getting bigger and bigger as his show progressed," Cuniffe adds.

Sheeran leaves the looks of his shows up to Cuniffe. "The first design was a bit more theatrical and parochial," the designer says. "I thought it was a natural step for Ed to take, but he wanted something more dynamic. I went away for about six weeks and came up with a different design. When Chris looked at it, I could see the blood drain from his face. When you give someone the challenge of creating something more dynamic, then, really, that's a bit of a blank canvas."

Many of Cuniffe's initial concerns were practical. "I wanted a production that could go from arenas to stadiums," he says. "We currently have a very big arena show,

CONCERTS

and we'll turn it into a good-sized stadium show for 2018. I wanted it to play as wide as it possibly could—at least 180°." This is phase one of an evolving design.

There is also the nature of Sheeran's performance style. "We're still one man and a guitar," Cunniffe says, "so you can't cut away to dancers or drum or guitar solos or other members of the band. It's all about him, and the visual impact of the show is how we present Ed and in what setting we present him."

For presentation, Cunniffe says, "I needed the opportunity to show different types of IMAG, so I added a crown above the stage." The curved crown is massive, spanning 80' from stage left to right while the stage is only 42' wide. He added a tall, columnar centerpiece that is also curved, increasing sightlines beyond 180°. "I rounded it off by putting in a floor piece," he adds. The result at times resembles a goblet, at others a tree, a form that it takes during "Shape of You."

Turning Cunniffe's vision into a tourable show was a challenge. Marsh notes, "Jeremy Lloyd, of Wonder Works [headquartered in London], did all of the drawings; he basically took what Mark and I walked in with and made it into something we could load in and load out. Over many meetings, we made something that could come apart and go onto trucks and go back up again the next day."

The tall, curvilinear set piece was fabricated by TAIT, based in Lititz, Pennsylvania. It includes a thin polycarbonate fascia with a vinyl sticker appliqué that gives the

appearance of brushed stainless steel but weighs less and is more durable. "There are no tolerances in it, which is something I think Tait found to be quite a challenge," Marsh admits. "Everything has to fit together precisely; if one thing was slightly out, the knock-on effect would be huge." From a rigging standpoint, that means, "We trim at 56'. That's the maximum and that's the minimum."

Most of the set is comprised of 5mm ROE Visual Carbon CB5 tiles, provided by Nashville-based Colonel Tom Touring. "The video product is not curved," Marsh says. "We have 600mm x 600mm screens and 1,200mm x 600mm screens; we create a curve in 600mm segments. It goes together easily, mainly because it's on Tait frames." Some of these are custom-designed, for the curved portions of the set. He adds, "I've worked with sets where you start off putting things together with your fingers and, a week in, you're using hammers and, before you know it, you're using crowbars to make things line up and stay together. Tait built us the best set we could possibly have. It goes together perfectly every time we rig the show."

Regarding the video content, Cunniffe notes, "I'm not a great fan of IMAG in the truest sense of the word, especially left and right IMAG, which, I think, takes the show wider for no real reason. If we're going to use camera reinforcement of the performer, the way to get around that is to incorporate the IMAG into the content of the show; I've spent a lot of time with Notch, developing a way of taking a subject and a live camera treatment of that subject."





The lighting- and video-infused structure was fabricated by TAIT.

Notch is a software solution that enables designers to create interactive and video content in real time that works with several media servers. For example, Sheeran appears in a neon line bubble during “The A Team,” in a stylized forest fire for “I See Fire,” and among neon-colored ripped headlines during “New Man.” Content dimensionality was a goal as well. Cunniffe comments, “I spent time doing 3-D video content on a 2-D surface, which has worked particularly well on this tour.”

The LED structure Cunniffe created is surprisingly versatile. “One piece of content is a merry-go-round, which appears during ‘Sing.’ It just looks fantastic, because the structure has the round shape to begin with, and then, when you begin playing with the geometry of the structure itself, in combination with video, you can make it do so many different things.” Content was provided by Moment Factory, based in Montréal, and Shop, located in Bristol, England. Phil Mead handled the d3 Technologies media server programming, while Matt Swoboda was the Notch programmer.

Some content will continue with the show into 2018. “To

be honest, I don’t want to go back to the production and tell them we spent all this money on video content, but we’re going to have to redo it all again for the new production; that just seems nuts,” Cunniffe says. “Part of my job is to design a show that can take the content that we paid for—and it’s not a small sum of money—and amortize it over two productions as opposed to one. We’ll end up developing it a bit further, we’ll add bits and pieces to it, Ed will change up his set list, and I’ll get a far better bang for the buck out of it.” The video equipment includes three d3 Technologies 4x2 Pros, five Bradley Camball 3 robotic cameras, and two manned cameras from Sony.

The structure Cunniffe designed gives more than enough eye candy; however, he decided to automate the four triangular pods that reside in the underside of the LED structure. “You can make the show smaller just by bringing the pods in and losing the video content. However, it becomes this huge, monstrous production when these things are moving live,” Cunniffe explains. Each pod is driven by three variable-speed motors controlled by Kinesys. Marsh notes, “When the bottom pods come down they’re at a trim



Lower left: Three of Marsh's Meyer Sound subs in an end-fire array, separated by just over 3'.

height of about 10', which means that Ed can run around and still be clear of them.”

The Kinesys equipment includes four DigiHoist Plus (63A) and eight DigiHoist (32A) intelligent chain hoist con-

trollers, 42 LibraCELL load-monitoring cells and 12 Liftket variable-speed 500kg hoists fitted with Kinesys Elevation 1+ drives. The system was configured and built during the prep in the warehouse of Lights Control Rigging, the tour's



UK lighting supplier, before being dispatched to the road.

Inside each triangular pod are 10 Claypaky Mythos 2s; there are 118 in total, located in the crown, base, and across the front of Sheeran's riser. Cunniffe admits, "One

driving factor behind choosing that product was the size. I chose the Mythos 2 because I knew I could hang it on its side, it's relatively light and it can fit through an aperture. I can hide 30% to 40% of the unit behind the structure and you get just the aperture and lens; it looks as though it's built into the production, as opposed to being hung on it."

Cunniffe continues, "When the lighting pods come in, upstage of them are four linear trusses that shine through the holes with 24 Claypaky [Scenius] Unicos. The source is 56' high and what you can see are the beams of light. It's a secondary level of lighting that's not visible. The Unicos are much bigger and brighter units, but, because they're hidden by the production, my eye isn't drawn to them; it's drawn to what they are doing." The Scenius Unico is a multi-function light that features a 1,400W Osram discharge lamp, 5° – 55° linear zoom, 16-blade fast iris, six rotating gobos, and a focus tracking system. The designer adds, "The Mythos is very much a rock-and-roll unit; the Unico is the midpoint between theatre and rock-and-roll: It has a bright beam, it's at least twice the size of the Mythos, and it has full shuttering. I think the Unico is a fantastic stadium profile, because it's so bright, it's got the shuttering, and it has a bigger presence. They're a great bunch of people at Claypaky, and they've designed some really good products."

Also featured in the rig are 17 TMB Solaris Flares. "They're behind the set with the Unicos and across the back of the stage behind Ed. They give us a bit of a bump," Cunniffe says.

The production's lighting and video elements combine to create many memorable moments. During "Bloodstream," Sheeran's IMAG image appears to be on a slide filled with living molecules of blood. "Bloodstream" is one of the most visually spectacular parts of the show—it's a dark and melancholic track. The last track in the show is "You Need Me" and it's a real visual feast; we really get our money's worth out of the pods then," Cunniffe says with a chuckle.

Matt Jones, the lighting director, is on the road with an MA Lighting grandMA2 console; Alex Passmore programmed the lighting portion of the show. Controlling all the movement is the custom Vector computer rack, containing two PCs, for full redundancy, running Kinesys' Vector, with a KVM for easy switching between the two. Three active screens are utilized, one for Vector, one for the LibraCELL feedback and one receiving a feed from the front-of-house camera, so they can see the movement at all times during the show. A UPS is in place for back-up power if needed.

Also included in the rig is a single Robert Juliat Lancelot followspot located on house left; the lighting gear for the US leg was provided by SES, located in Winston-Salem, North Carolina.

CONCERTS

Sound

During the show, Marsh is busy at the front of house, wrangling a Meyer Sound PA. “I’ve tried most others, and I didn’t enjoy using them,” he says. “It has the best separation within the mix, and I’m able to hear more detail in the mix coming out of the speakers. The Meyer system, when

LYONs under each hang] with LFC-1100 subs [six per side flown and nine per side, ground-stacked], which we previously toured with. We have MILO cabinets [two hangs, 16 each side] flown quite far upstage as side hangs, and LEOPARDS [two more hangs, eight cabinets total] flown ever farther upstage than that, because we sell quite wide.”



The workhorse of the lighting rig is the Claypaky Mythos 2, chosen for its size and ease of positioning.

tuned properly, handles most venues much better than other PAs; it throws right to the back of the arena—it’s very even, clean coverage everywhere, which I think is vital for any act, but even more so when you’re relying on the voice and acoustic guitar of one individual.”

“We have a LEO rig [two hangs with 14 each, with two

The Leopard came to Marsh’s attention during a stadium gig in Australia, where he used them as delays. “I was absolutely amazed by what it could produce from such a small box,” he says. “With this rear hang so far around, they’re perfect. You can stick them anywhere, they’re really fantastic speakers.” The audio package is courtesy of

Salisbury, UK based Major Tom Ltd.

Managing the sub-bass signal in an arena can be tricky. “Traditionally, left and right subs create this power alley down the middle that the front-of-house engineer enjoys,” Marsh says. “But when you walk to the side of that—where the majority of audience is standing—it really isn’t

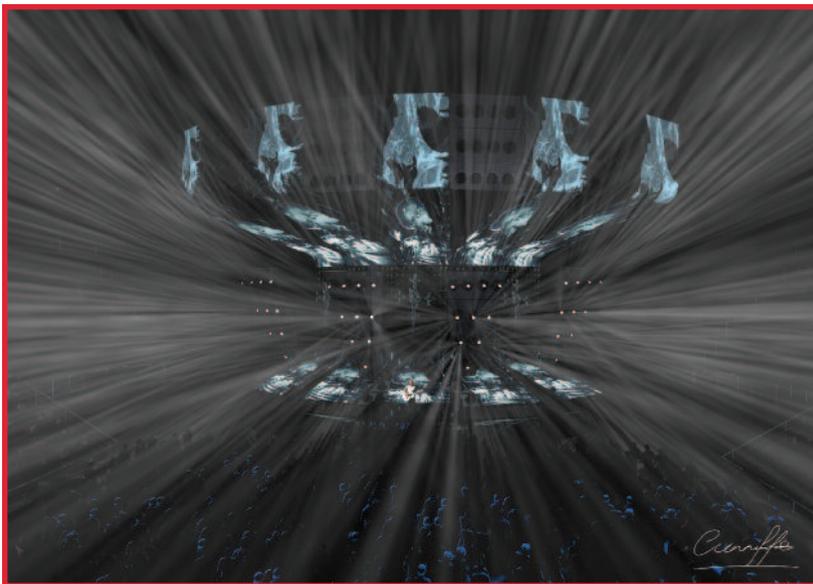
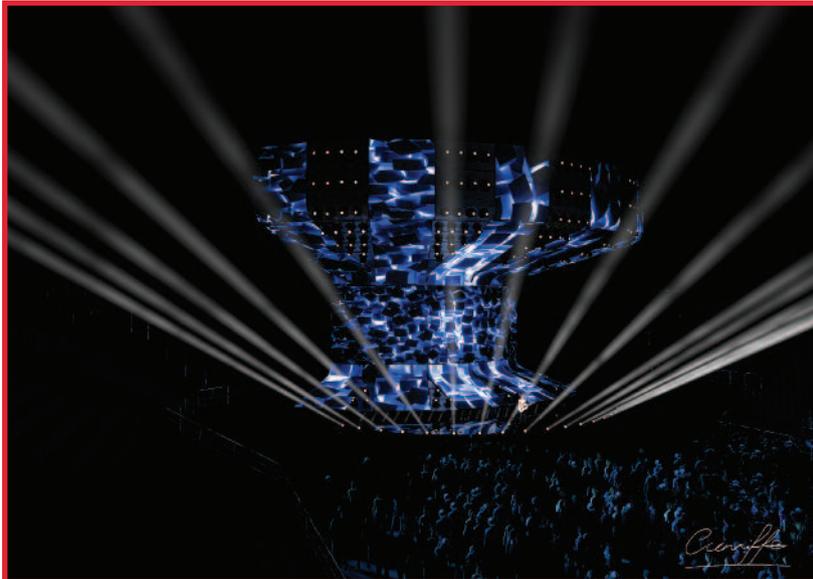
tion of the sub cabinets, allowing FOH engineers to alter the coverage using the physical nature of the sub-bass signal. Marsh explains, “The end fire configuration does achieve a very even coverage, but you don’t get any more power. It essentially enables the subs to deliver very smooth low-end coverage across the arena floor.”

Technically, this array takes the sub signal and uses time sequencing, as well as phase differences, to manipulate it. Marsh likens the behavior of the subs to ripples of water in a pond. “It’s like dropping one stone in water, and you see a ripple. If you drop two pebbles into the water, some of the ripples meet and cancel each other out, and there’s a good chance those ripples won’t make it to the edge of the water. If you can make these stacks of subs behave in such a way that they’re using all of the power available to them to become one big stone, you’re metaphorically dropping a bigger stone in the water and getting a bigger ripple that goes to the edge of the pool. We’re limited in terms of depth, so our speakers are only just over 1m apart from the rear of the cabinet to the grill of the next one. The timeline is worked out accordingly, so they have the response together. It’s something we discovered the last tour; we played with a lot of different configurations and lots of different ideas to make the coverage more even. The end fire configuration is definitely popular; I don’t think that anyone disagrees that it’s a good solution to getting even coverage.”

For the sub-bass signal, Marsh adds, “I used to run the sub-bass on a separate auxiliary in the desk. Now I’ve put the sub in with the main hang; I just send it left and right. It gives me the ability to use more of the low end in the Leo cabinet, which really helps with getting the punchy bass frequencies that Ed produces to

the back seats. I’ve taken control of the levels of the sub-bass within the console rather than relying on processing.”

The console in question is the DiGiCo SD7. “I’ve stuck with DiGiCo since we started with Ed,” Marsh says. “Originally, with Ed, I had a very small SD11, and then I outgrew it.” Asked about his choice, he says, “There are a



Two of Cunniffe’s original renders show its visual versatility.

as prevalent. We were desperately trying to get away from those power alleys.”

To resolve the issue, Marsh and system engineer Charlie Albin decided to configure the ground subs in an end fire array consisting of three stacks of three, with one behind the other. The end fire array is a physical configura-



Using dimensional video and lighting, Cuniffe is able to completely transform the structure.

lot of practical reasons: the dual redundancy, stability—I don’t run Waves, so I don’t end up with any problems with third parties trying to control my console. All the functions do exactly what they should do, in a very musical way. I like the layout. I started off as an analog engineer, and, for me, it’s laid out very logically. I’ve had a faultless record with DiGiCo.”

Marsh’s setup at the front of house is fairly streamlined. He says, “I have an Avalon VT-737sp, which is my go-to vocal processor. I use a Waves MaxxBCL unit on the left and right, which gives me control of the low end. I have an Eventide Eclipse V4 effects processor for vocal harmonizing, and, finally, Ed’s vocal and his guitar have reverbs from a Bricasti M7 reverb unit.”

Marsh continues: “I use a JoeCo BLACKBOX multitrack recorder to record the show every night, so we can go back and dissect things and do some virtual sound checks if required. For recording the show every night, the JoeCo is an amazing little unit—it’s MADI in, so I have a single cable that goes from the console to the unit, and vice versa. It’s a cinch to record and play it back every day. There’s also a Meyer drive rack with Galileo [Galaxy network platform] and sim3 [audio analyzer]; Callisto [the array processor] lives backstage. “

Although Sheeran is the only man on stage, that doesn’t

necessarily make Marsh’s job simple. “I’ve said it a few times before—an awful lot of people say it must be such a joy to just have an acoustic guitar, a looper, and a vocal, and, funnily enough, it’s not,” he says. “Absolutely everything you’re doing is completely exposed and open to criticism. There’s nothing hidden in the mix, there’s nothing providing the padding or the foundation, the whole thing is very open and exposed, so there might not be very many things but they all have to be exactly right all the time.”

In addition to his production manager and front-of-house engineer jobs, Marsh also serves as monitor engineer. “Ed never got very comfortable with having a monitor engineer there,” he says. “It stuck that I would do it from FOH, and I always believed that would not last, that eventually that would change and he’d have some requests, and the show would require someone to be there paying attention. But it never happened.”

Sheeran likes his monitor mix to be 100% consistent. “Ed doesn’t request any changes, I’m not changing anything, it’s exactly how he wants it and it doesn’t vary from that. I don’t listen for his monitor mix throughout the show and worry about finessing it; he doesn’t want someone to finesse. He wants it to start and finish the same way. I feed effects in and out during the show that Ed gets to hear and it’s easy, because I’m doing it from the front-of-house



Hidden behind the pods are Claypaky Unicors and TMB Solaris Flares, which appear only when the pods have moved out of their home position.

console,” Marsh remarks.

To run monitors from the front of house, “We have to duplicate inputs without any signal degradation. I run the left-hand side of my console for front of house, and the right-hand side of my console is for monitors. I use 37 actual channels on the desk, I have 13 active inputs from stage, so it’s not big,” Marsh says.

On stage, he adds, “We have two [Meyer] MJF-212 wedges, which we have used since the beginning, and I have a pair of 900-LFCs for sub bass off to the side of him, which act as little side fills. That’s the only noise we have on stage. The sub bass is essential on stage, because it gives him a metronomic reference.”

Sheeran uses a Sennheiser SR 2050 IEM system. But, Marsh notes, “Ed pulls his ears out to get the real crowd noise instead of just having ambient mics; the wedges are essential, so he can hear what’s going on.”

Marsh adds: “Ed has two vocals—one he’s building loops with and one vocal mic for singing—that go through a Sennheiser 9000 digital wireless system,” Marsh continues. “We started using it in the end of ‘14, when they came and demoed it for us; we knew we had finally found a radio solution for Ed’s guitar. When you can hide a guitar in the mix, it’s very different than him playing the guitar and it being the only instrument, so it needed to sound as

if it’s on a cable, and no other system did. It was night and day; everything else we tried, pretty much every other product on the market, the guitars sounded dreadful.” Sheeran uses a Sennheiser 9235 condenser capsule for vocals; for his loops, he has a 945 dynamic capsule.

On stage, Sheeran is using a custom looping system christened “The Chewie pedal.” Marsh explains, “We had the first incarnation that we toured with on the last campaign, and we’ve spent most of the year off developing a new one, which is now working flawlessly. It’s absolutely rock-solid and has been great. The Chewie pedal [currently Chewie 2] is, in reality, quite a simple looper system: Ed can play or sing into it and it plays the refrain back on loop. It gets more complicated, as there are multiples of channels that Ed can record, refine, and mute or unmute during the song. Finally, at the end of every song, there’s a clear button; when he hits the clear button and everything goes back to zero again.” The singer creates everything on stage, in front of the audience. “Nothing is recorded. He is entirely live,” Marsh asserts.

Ed Sheeran’s *Divide Tour* continues in US arenas until early October. “Ed’s shows are always visually spectacular, and they’ve grown over the years. That is in no short measure due to Ed himself and his management’s attitude towards production presentation,” Cunniffe concludes. 📶